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VIA ELECTRONIC FILING

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington DC 20554

Re: Improving Wireless Emergency Alerts and Community-Initiated Alerting, PS Docket No. 15-91.; Amendment to Part 11 of the Commission's Rules Regarding the Emergency Alert System, PS Docket 15-94

Dear Ms. Dortch:

On Monday, September 25th 2017, Brian Daly, Christi Shewman, Mike Tan, and the undersigned from AT&T met by phone with Linda Nagle, Megan Henry, James Wiley, Rasoul Safavian, Marcus Brown, and Emily Talaga of the Public Safety and Homeland Security Bureau. During this meeting, the staff and attendees discussed various questions regarding geo-targeting and geo-fencing of Wireless Emergency Alerts (WEA) raised in the Commission's Further Notice of Proposed Rulemaking in the above-referenced proceeding.

As part of this discussion, AT&T provided the attached graph that shows the potential impact of the requirement to support device-based geo targeting on the overall WEA message length. As part of device-based geo-targeting, a set of vertices representing the polygon specified by the alert originator must be delivered to the device and would be included as part of the payload, thereby reducing the remaining amount of characters available for the actual message. The size of the remaining message has an inverse relationship with the number of vertices included in the polygon that will be sent to the handset. And even with the compression rates suggested¹ (13.7% to 21.4% compression), it has the potential to reduce the message length significantly. For reference purposes, the WEA messages delivered on September 20, the average number of vertices per message was 18 reducing the length available for the WEA message to somewhere between 157 characters to 137 characters depending on the level of compression that could be obtained.

The assumptions used in this chart include GPS coordinates with 3-digit precision (which equates to approximately +/- 110m) and a 6-character delimiter symbol to separate the

¹ See U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T), "Wireless Emergency Alerts, Arbitrary Location-Aware Targeting Final Report", June 2015.
<https://www.dhs.gov/sites/default/files/publications/WEA%20JHU%20APL%20ASLAT%20Final%20Report.pdf>

coordinates from the displayable text. It also assumes the coordinates and message content are carried as payload in the same WEA message to minimize the complexity of broadcasting the polygon coordinates to the mobile device. However, the precision of the coordinates and the size of the delimiter symbol may change, given that the standards for device-based geotargeting has not yet been completed.

AT&T also raised concerns with a proposal calling for 100% of devices to meet less than 0.10-mile geo-fencing accuracy (or overshoot). Mobile device-based geo-fencing accuracy is totally dependent on how accurate a location fix the mobile device can obtain, and is beyond control of the Commercial Mobile Service Provider. Device-based geo-fencing may make use of the device's internal GPS, whose accuracy is a function on the number of satellites visible to the device. However, depending on the location of the device (e.g., in the open, urban canyon, indoors), the position determined by the device may be much less accurate, and/or may take a significant time to obtain a location fix. Similarly, OS-embedded or "app"-based location capabilities are dependent on third party "crowdsourced" databases of information such as cell site locations and/or wireless access point SSIDs, which again makes the accuracy highly dependent upon the distribution of cell sites and access points in the vicinity of the WEA alert recipient. Geo-fencing accuracy in sparsely populated areas using these third-party methods would not provide the same level of accuracy as those in dense urban areas. And these third-party databases are in the cloud and must be accessible at the time of the locate in order to provide a good location estimate, a factor which is wholly outside the control of a Commercial Mobile Service Provider. Feature phones also may not have the ability to provide such location accuracy since these OS-based capabilities are not resident on the devices.

Finally, during this meeting, AT&T supported the recommendations of the CSRIC V Working Group 3 (WG-3), including a recommended minimum 42-month timetable to implement a device-based geo-fencing capability since these changes would require fundamental changes in the operating system software and mobile device handling of cell broadcast message processing. AT&T believes it may be feasible to expedite this time table if the coordinate data for the polygon and the message content are sent in the same WEA Message. We believe that there is significant additional complexity if the polygon data and content are sent in separate messages that the handset must correlate in order to process and display WEA messages on the handset.

Pursuant to the Commission's rules, a copy of this notice is being filed electronically in the above-referenced docket. Please do not hesitate to call me if you have questions.

Sincerely,

/s/ Joseph P. Marx
Assistant Vice President, AT&T Services Inc.

Cc:

Marcus Brown
Megan Henry
Linda Nagle
Rasoul Safavian
Emily Tlaga
James Wiley

Attachment

Attachment 1: Impact on WEA Message Length

